



WB/ KP SI & CONSTABLE



GS-SCI

CELL

BY SOUMI MAHENDRAS



LIVE

06:15 PM





Mahendra's

TO CRACK THE WBCS EXAM JOIN MAHENDRA'S

WBCS-2023



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CELL

cell

- **The cell is the basic structural, functional, and biological unit of all known organisms.**
- **A cell is the smallest unit of life.**
- **Cells are often called the "building blocks of life".**
- **The study of cells is called cell biology, cellular biology, or cytology.**

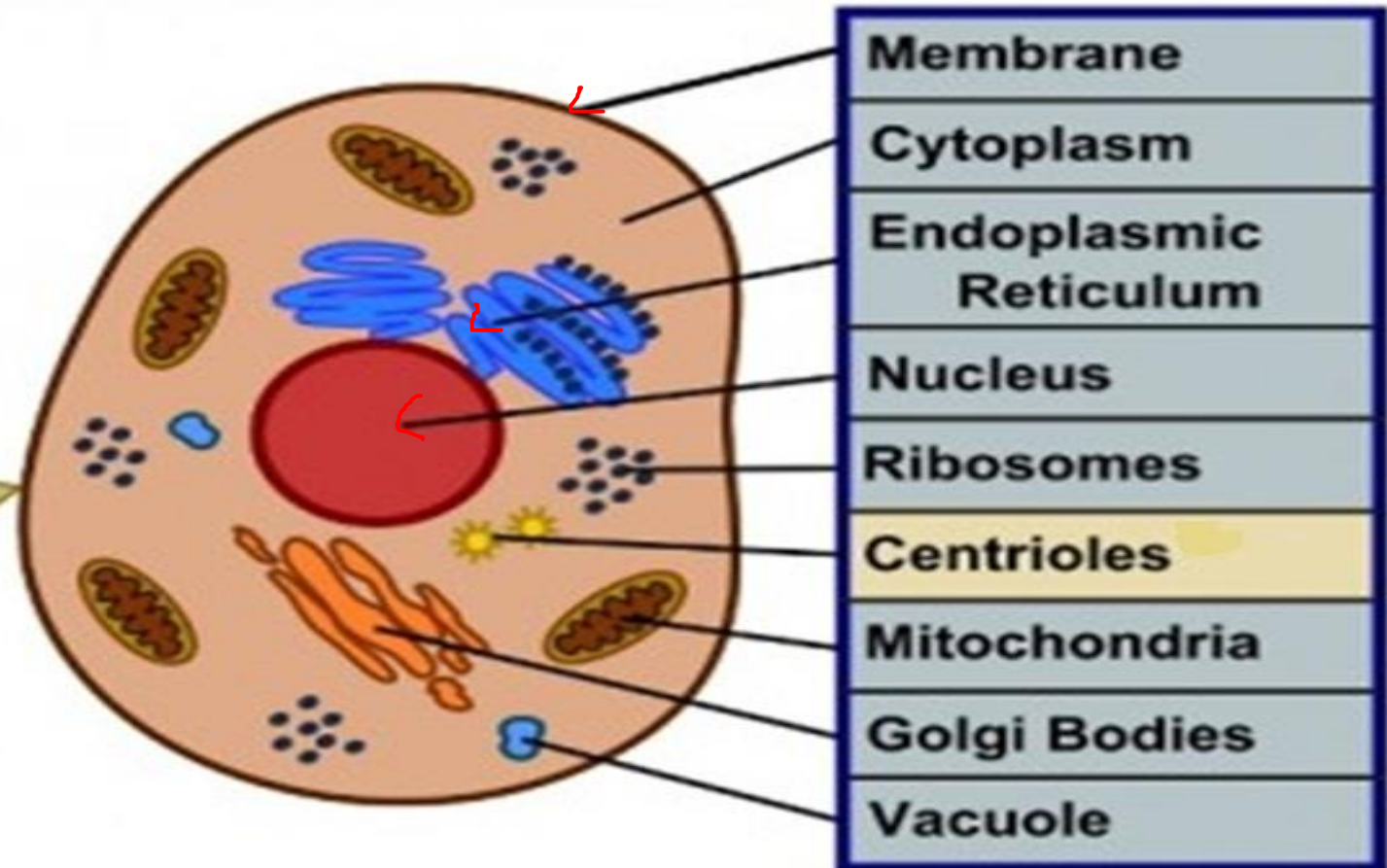
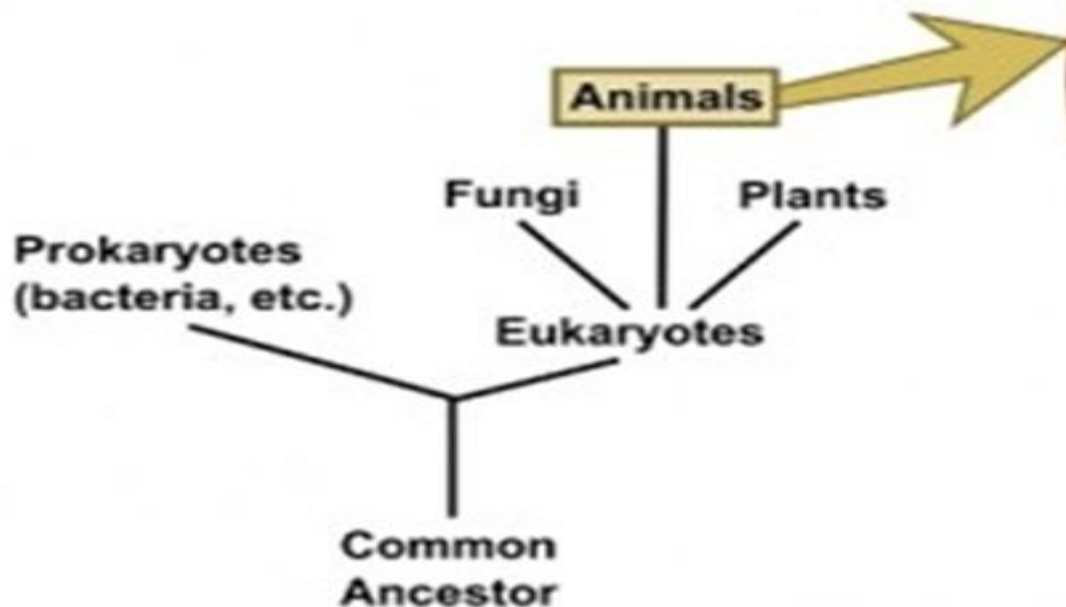
- **Organisms can be classified as unicellular (consisting of a single cell such as bacteria) or multicellular (including plants and animals).**
- **it has been estimated that humans contain somewhere around 40 trillion (4×10^{13}) cells.**
- **The human brain accounting for around 80 billion of these cells.**

- **Cells were discovered by Robert Hooke in 1665.**
- **Cell theory, first developed in 1839 by Matthias Jakob Schleiden and Theodor Schwann, states that all organisms are composed of one or more cells**
- **Cells are of two types: eukaryotic, which contain a nucleus, and prokaryotic,**
- **Prokaryotes are single-celled organisms, while eukaryotes can be either single-celled or multicellular.**

Eukaryotes

Plant and animal cells are both Eukaryotic (which means that the cells contain a nucleus), and have many structures and functions in common. Compare this animal cell to the plant cell in the diagram below.

Animal Cell



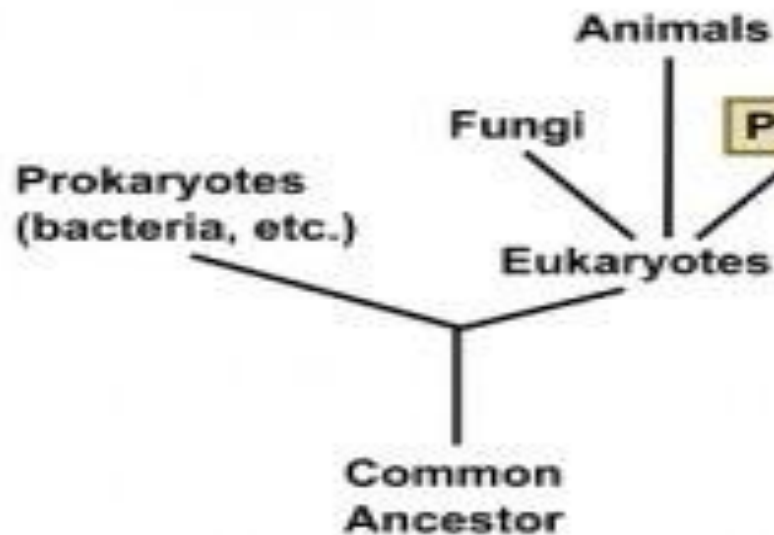
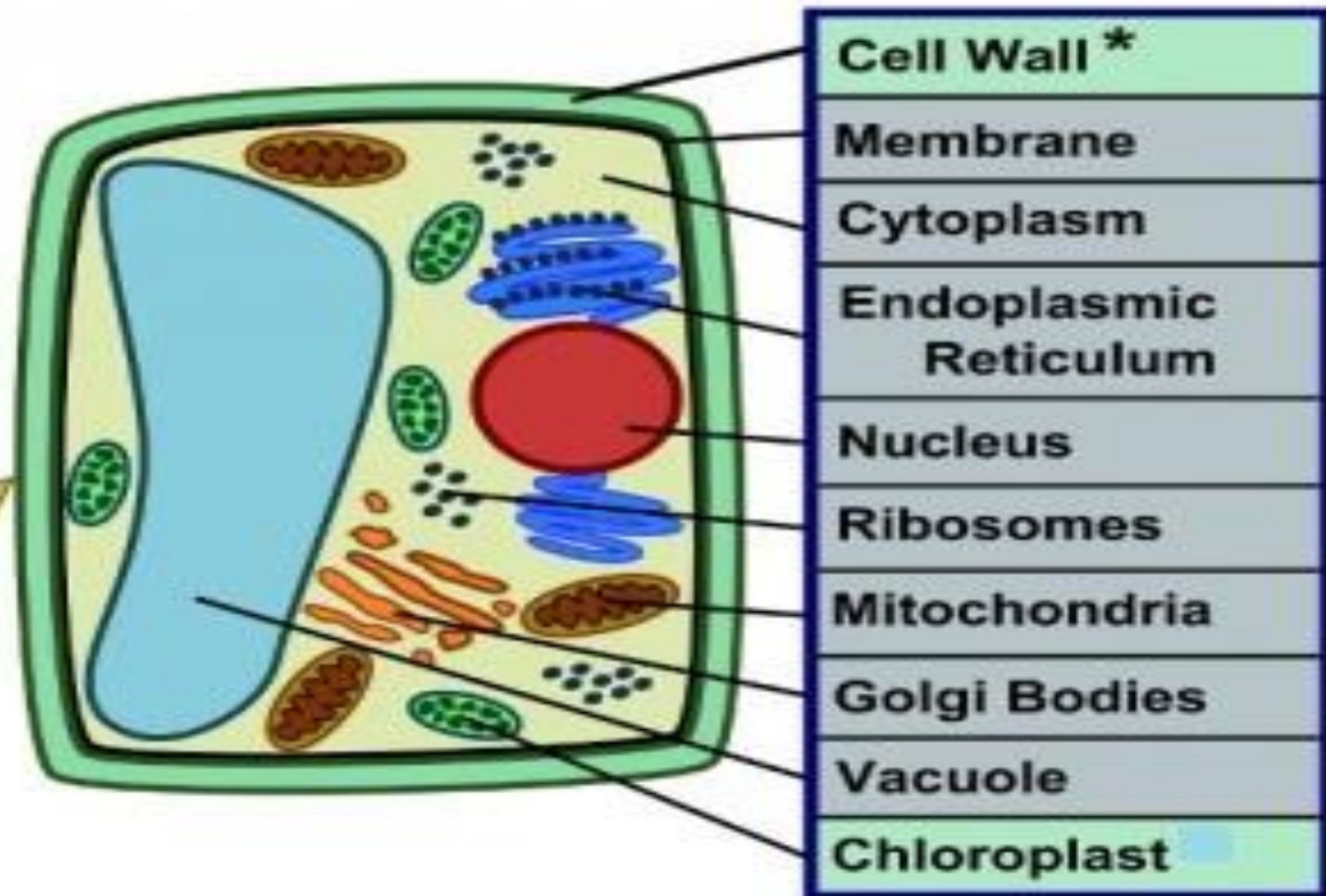
Primary Differences

Plant cells need to perform two functions not performed by animal cells:

1. produce their own food
2. support their own weight

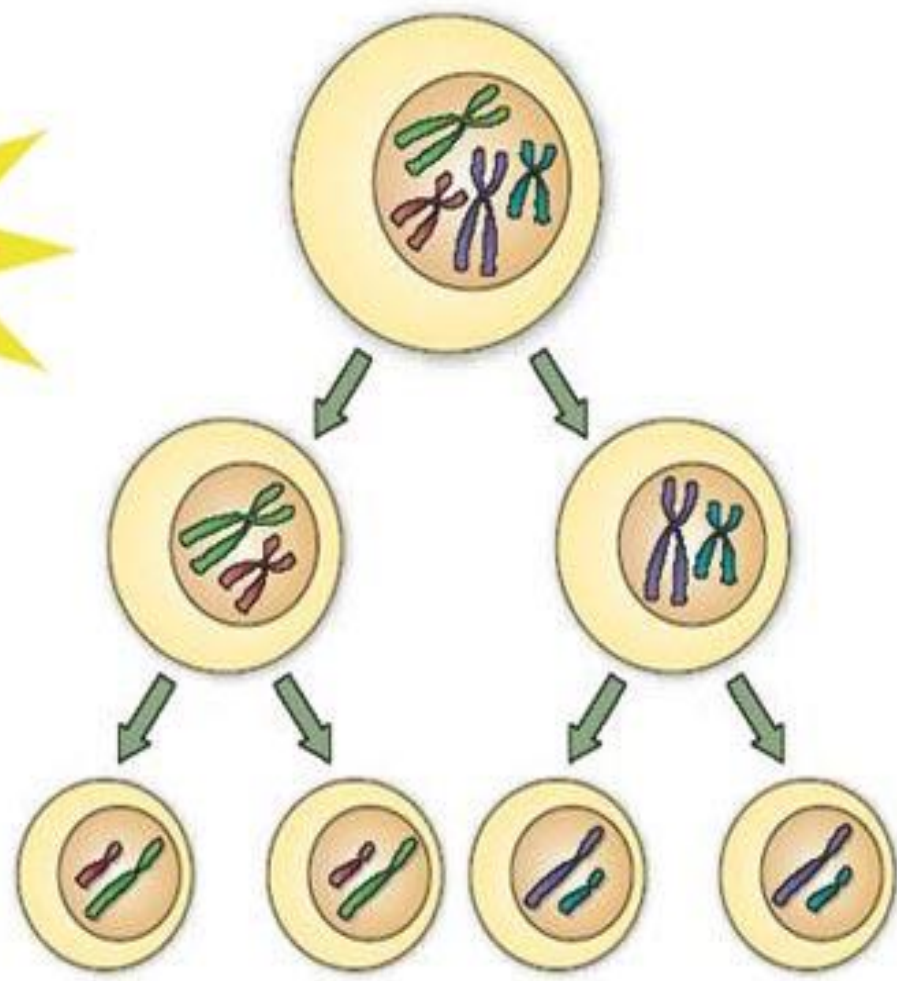
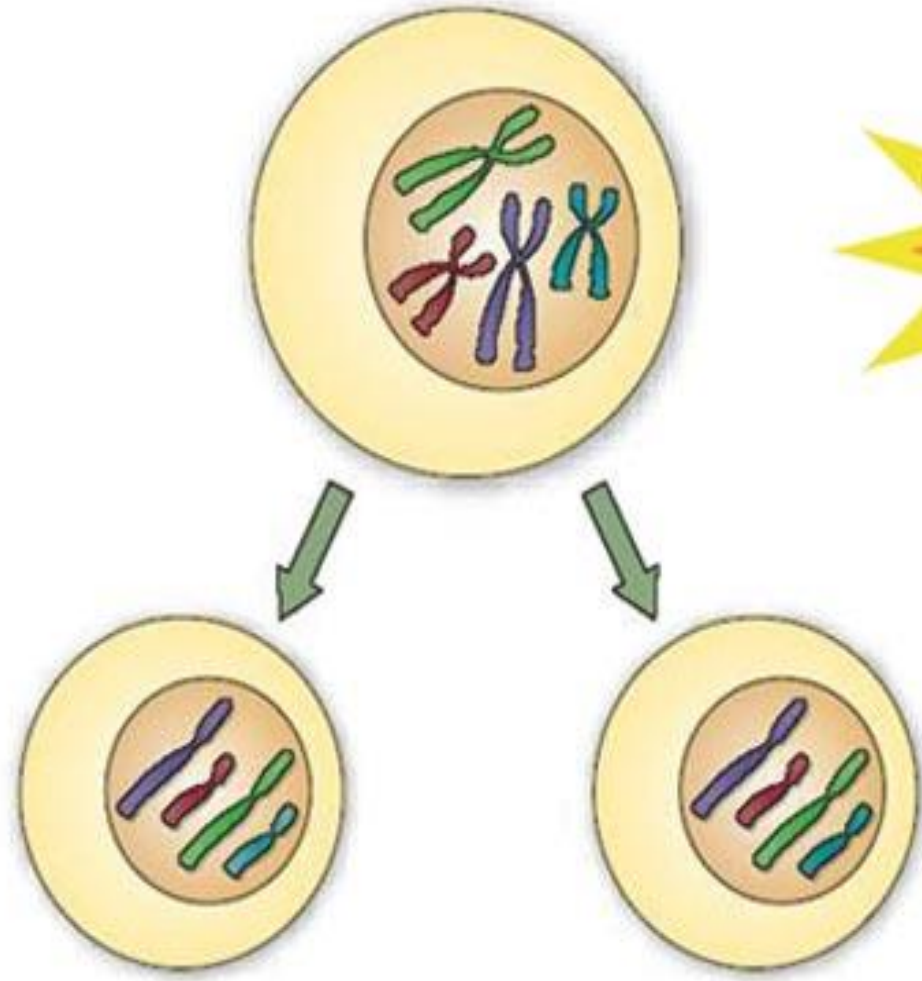
These account for the primary differences between plant and animal cells.

Plant Cell



MITOSIS

MEIOSIS



Mitosis is a process of asexual reproduction in which the cell divides in two producing a replica, number of chromosomes in each resulting diploid

Meiosis is a type of cellular reproduction in which the number of chromosomes are reduced by half separation of homologous chromosomes, haploid cells.

Differences

Mitosis

Meiosis

1. Type of Reproduction

Asexual

Sexual

2. Genetically

Similar

Different

3. Number of Divisions

One

Two

4. Pairing of Homologous

No

Yes

5. Mother Cells

haploid or diploid

Always diploid

6. Number of Daughter Cells

2 diploid cells

4 haploid cells

7. Chromosome Number

Remains the same

Reduced by half

Thank
you

